```
=> file caplus
FILE 'CAPLUS' ENTERED AT 13:39:43 ON 26 MAY 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)
```

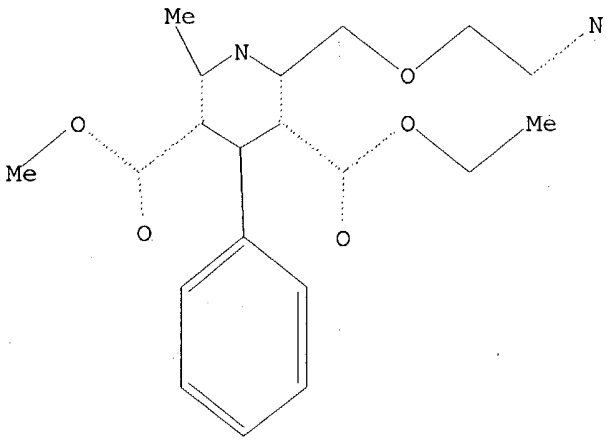


```
FILE COVERS 1907 - 26 May 2004  VOL 140 ISS 22
FILE LAST UPDATED: 25 May 2004  (20040525/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> d quw
'QUW' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'
ENTER DISPLAY FORMAT (BIB):end

=> d que
L1                STR
```




```
Structure attributes must be viewed using STN Express query preparation.
L3          612 SEA FILE=REGISTRY SSS FUL L1
L4         1411 SEA FILE=CAPLUS L3
L5            1 SEA FILE=CAPLUS L4 AND PYROGLUTAMATE


=> d l5 ibib abs hitstr

L5   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         2004:157497  CAPLUS
DOCUMENT NUMBER:          140:199208
TITLE:                    Preparation of amlodipine pyroglutamic acid salts with
                          improved stability and solubility.
```

INVENTOR(S): Youn, Yong Sik; Cho, Seong Hwan; Park, Choong Sil; Kim, Yun Cheul; Lim, Dong Kwon; Jung, Sung Hak; Lee, Sung Hak; Kang, Hyun Suk; Park, Kyung Mi; Jung, Yun Taek; Kim, Young Hoon; Yeon, Kyu Jeong; Chae, Myeong Yun; Jin, Hae Tak; Suh, Hea Ran; Lee, Kwang Hyeg; Lee, Hyuk Koo
PATENT ASSIGNEE(S): CJ Corporation, S. Korea
SOURCE: Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1391453	A1	20040225	EP 2003-18653	20030820
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
WO 2004018426	A1	20040304	WO 2003-KR1677	20030821
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004131483	A2	20040430	JP 2003-297765	20030821

PRIORITY APPLN. INFO.: KR 2002-49422 A 20020821

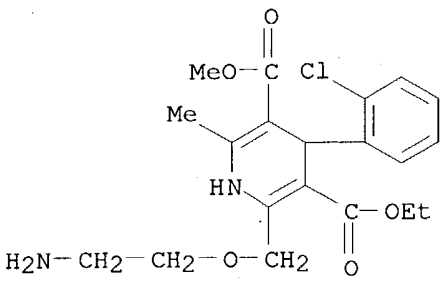
AB A pyroglutamic acid salt of amlodipine is claimed. Thus, amlodipine in EtOAc was treated with (S)-pyroglutamic acid at 25.degree. followed by stirring for 1 h to give 95.3% amlodipine (S)-**pyroglutamate**. The latter showed improved stability on storage relative to the besylate, tosylate, and hydrochloride salts.

IT **663180-17-4P 663180-18-5P 663180-19-6P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of amlodipine pyroglutamic acid salts with improved stability and soly.)

RN 663180-17-4 CAPLUS
CN L-Proline, 5-oxo-, compd. with 3-ethyl 5-methyl 2-[(2-aminoethoxy)methyl]-4-(2-chlorophenyl)-1,4-dihydro-6-methyl-3,5-pyridinedicarboxylate (1:1) (9CI) (CA INDEX NAME)

CM 1

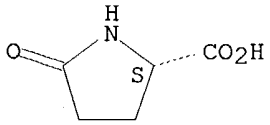
CRN 88150-42-9
CMF C20 H25 Cl N2 O5



CM 2

CRN 98-79-3
CMF C5 H7 N O3

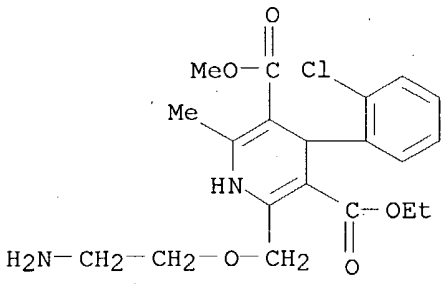
Absolute stereochemistry. Rotation (-).



RN 663180-18-5 CAPLUS
CN D-Proline, 5-oxo-, compd. with 3-ethyl 5-methyl 2-[(2-aminoethoxy)methyl]-4-(2-chlorophenyl)-1,4-dihydro-6-methyl-3,5-pyridinedicarboxylate (1:1) (9CI) (CA INDEX NAME)

CM 1

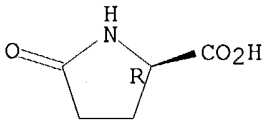
CRN 88150-42-9
CMF C20 H25 Cl N2 O5



CM 2

CRN 4042-36-8
CMF C5 H7 N O3

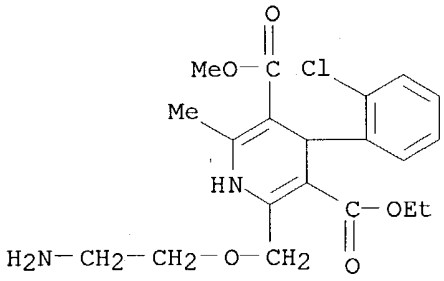
Absolute stereochemistry. Rotation (+).



RN 663180-19-6 CAPLUS
CN Proline, 5-oxo-, compd. with 3-ethyl 5-methyl 2-[(2-aminoethoxy)methyl]-4-(2-chlorophenyl)-1,4-dihydro-6-methyl-3,5-pyridinedicarboxylate (1:1) (9CI) (CA INDEX NAME)

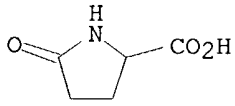
CM 1

CRN 88150-42-9
CMF C20 H25 Cl N2 O5

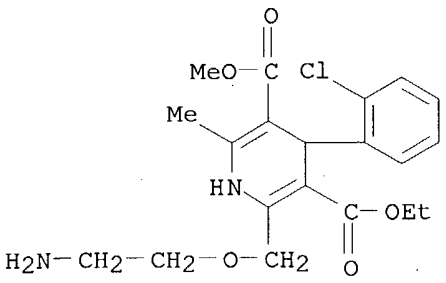


CM 2

CRN 149-87-1
CMF C5 H7 N O3



IT **88150-42-9**, Amlodipine
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of amlodipine pyroglutamic acid salts with improved stability and soly.)
RN 88150-42-9 CAPLUS
CN 3,5-Pyridinedicarboxylic acid, 2-[(2-aminoethoxy)methyl]-4-(2-chlorophenyl)-1,4-dihydro-6-methyl-, 3-ethyl 5-methyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT